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# Self-Referential Memory and Mental Time Travel

Episodic memory has a distinctive phenomenology. One way to capture what is distinctive about it is by using the notion of mental time travel: When we remember some fact episodically, we mentally travel to the moment at which we experienced it in the past. This way of distinguishing episodic memory from semantic memory calls for an explanation of what the experience of mental time travel is. In this paper, I suggest that a certain view about the content of memories can shed some light on the experience of mental time travel. This is the view that, when a subject remembers some fact episodically, their memory represents itself as coming from a perception of that fact. I propose that the experience of mental time travel in memory is the experience of representing one of the elements in this complex content, namely, the past perceptual experience of the remembered fact. In defence of this proposal, I offer two considerations. Firstly, the proposal is consistent with the idea that memories enjoy a temporal phenomenology (specifically, a feeling of pastness). Secondly, the proposal is consistent with the possibility that some of our other cognitive capacities might yield an experience of mental time travel which can be oriented towards the future. I argue that the received conception of mental time travel is in tension with those two ideas.

Keywords: Memory; intention; self-reference; mental time travel.

## 1. Introduction

Sometimes we express what we remember in propositional form. We claim to remember that such-and-such thing was the case.<sup>1</sup> When we speak thus, we may be referring to two kinds of memory. One of them, 'episodic' memory, feels to us in a special way. And one of the ways in which the feeling of remembering episodically seems to be special is that, in some sense yet to be specified, it projects us mentally into the past. This phenomenological aspect of remembering episodically has come to be

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<sup>1</sup> In this discussion, I will focus on those memories that we report as being about facts, as opposed to objects, properties or events. Thus, I will focus on the kind of memory that we would express by saying, for example, 'I remember that Mary was at the party', and not on the kinds of memories that we would express by saying 'I remember Mary', 'I remember being at the party' or 'I remember the party'. The reason for concentrating on this type of memory is that this is the type of memory that we express propositionally. However, there are reasons for thinking that the account of episodic memory to be proposed below should generalise to non-propositional memories; memories that we report as being about objects, properties and events. (See note 14.)

known as 'mental time travel'. The aim of this paper is to put forward a proposal about the nature of the experience of mental time travel in memory. I will proceed as follows.

In section 2, I will contrast episodic memory with the other main form of memory that we express propositionally, that is, 'semantic' memory. The notion of mental time travel will then be introduced as a phenomenological aspect of episodic remembering which may allow us to distinguish episodic memory from semantic memory. At that point, the following question will arise: What exactly is the experience of mental time travel in memory? The received answer to this question will be discussed in section 3. According to it, when a subject remembers a fact, they mentally travel back to the time at which they experienced that fact in that they get to re-live their original experience of the fact. I will highlight two virtues of this conception of mental time travel. For one thing, it is conceptually economical. For another, the claim that episodic memory involves mental time travel in this sense allows us to explain why, when we remember some fact episodically, we are aware of what it was like for us to experience that fact in the past. I will also raise, however, two difficulties for this conception of mental time travel. For one thing, it is in tension with the fact that our episodic memories seem to enjoy a feeling of pastness, that is, they seem to present past facts to us as being in the past. For another, this conception of mental time travel does not seem to leave room for the possibility of having an experience of mental time travel which is oriented towards the future; an experience that we seem to have when we use some of our other cognitive capacities. Accordingly, in sections 4 and 5, I will propose an alternative conception of the experience of mental time travel in memory. The main tenet in this conception is that the feeling of mental time travel in memory is the experience of something represented by our memories. Thus, the proposed conception of mental time travel in memory is grounded on a particular view about the content of episodic memories. The relevant view about the content of episodic memories will be offered in section 4. My contention in that section will be that our memories are, in a sense, self-referential. They represent themselves. More specifically, memories represent their own causal origin. They represent themselves as coming from perceptions of objective facts. In section 5, I build on this idea to offer a new conception of mental time travel in memory. According to this notion, the feeling of mental time travel in memory is the experience of our own past

perceptual experiences. In defence of this conception of mental time travel, I argue that it preserves the main virtues of the received view about the nature of mental time while, at the same time, avoiding the main difficulties for the received view.

## **2. Mental time travel in episodic memory**

Consider the following two cases of remembering. In the first case, you are asked whether you know what the capital of Belize is. At that moment, you do not have any experience wherein you can visualise a city in Belize, or anything else for that matter. But you learned the relevant fact in school, and you can still call it to mind. You remember that Belmopan is the capital of Belize. Let us call this case, the 'Belize case'. In the second case, you are asked whether your house keys were on the kitchen island when you were leaving the house this morning. You have an experience wherein you are able to visualise the kitchen as you were leaving this morning. You are able to direct your attention at different objects represented by your experience and, eventually, find the keys among them. You remember that the house keys were indeed on the kitchen island this morning. Let us call this case, the 'house keys case'. We are all familiar with episodes of remembering which are similar to the Belize case, and with episodes of remembering which are similar to the house keys case. We also sense an intuitive difference between the two types of cases. In the psychological literature, the form of memory involved in the Belize case has come to be known as 'semantic' memory whereas the form of memory involved in the house keys case has come to be known as 'episodic' memory.<sup>2</sup>

Intuitive as it is, the difference between semantic memory and episodic memory is remarkably hard to formulate. One possibility is to draw the distinction between the two forms of memory on phenomenological grounds. After all, it seems quite clear that there is such a thing as what it is like for you to remember that the house keys were on the kitchen island this morning. Perhaps there is also such

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<sup>2</sup> The terminology originates in Endel Tulving's (1972).

a thing as what it is like for you to remember that Belmopan is the capital of Belize.<sup>3</sup> But even if there is, it seems quite clear that the phenomenology of remembering in the former case will be quite different from the phenomenology of remembering in the latter case. The challenge, of course, is to specify the precise sense in which the phenomenology involved in each case is different.

There is a view according to which the key characteristic of the phenomenology of episodic memory is that remembering involves the experience of mentally projecting oneself into the past, an experience that has come to be known as 'mental time travel'. The thought is that the feeling of remembering a past fact episodically is similar to what one would experience if one were transported back to the moment at which one experienced the fact in the past.<sup>4</sup> This is an appealing idea. It is important, though, to appreciate where the appeal of this idea comes from. It seems to come from a certain aspect of episodic memory, namely, that episodic memory involves some awareness of our own past experiences.

If a subject remembers a fact episodically, then this allows the subject to form an opinion about whether, and about how, the fact has been perceptually experienced by them.<sup>5</sup> The subject's memory of the fact seems to inform them that the remembered fact was perceptually experienced by them; experienced in a particular way. Thus, if I remember the house keys episodically, the way in which the keys appear to

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<sup>3</sup> If cognitive operations, in general, have an associated phenomenology, then this seems quite plausible. On cognitive phenomenology, see (Bayne and Montague 2011).

<sup>4</sup> Tulving, for example, distinguishes episodic memory from semantic memory by appealing to this aspect of episodic memory in (2005, 9). His definition of episodic memory in (1983, 1) also mentions 'travelling back into the past in one's mind'.

<sup>5</sup> The converse is not true. A subject may perceptually experience a fact, and tell a friend what their experience was like. Later, the subject may forget what it was like for them to experience the fact in the past. But they may learn, through their friend's testimony, what it was like for them to experience it. In that case, the subject is in a position to form beliefs about their past experience of the fact without remembering the fact episodically.

me is not neutral on whether I have perceptually experienced the keys, and it is not neutral on what it was like for me to experience the keys perceptually either. In virtue of remembering the keys episodically, I seem to be aware not only of the fact that I perceptually experienced the keys in the past, but also of what it was like for me to have such an experience. I am aware that it was a not particularly vivid experience, I am aware that it was a fleeting experience, and so on. More generally, for any subject S and proposition p, if S remembers that p episodically, then S is aware of what it was like for S to perceptually experience that p. In this sense, episodic memory provides one with access to one's own past experiences.<sup>6</sup> It seems natural to talk about this kind of access by using metaphors such as 'mentally travelling', or being 'mentally transported', back to the time at which the remembered facts obtained. The notion of mental time travel seems to be, then, a way of referring to the phenomenological feature of episodic memories which provides us with an awareness of our own past experiences: Mental time travel, whatever it amounts to, is the aspect of the phenomenology of remembering a fact which makes us aware of what it was like for us to perceptually experience the fact in the past.

Mental time travel is therefore an attractive notion. Attractive as it is, however, mental time travel is only a metaphor. What exactly is to travel, mentally, back to the time at which some fact in our past obtained? One would want to know what this feeling associated with our episodic memories is a feeling of, and how this feeling associated with our episodic memories makes it possible for us to have access to our own past perceptual experiences. In section 3, I will consider the received view about the feeling of mental time travel in memory. As we will see, the view at issue turns out to be unsatisfactory. And yet, the view also teaches us some interesting lessons about what a satisfactory notion of mental time travel for memory should look like. It is worthwhile, therefore, to consider the received view of mental time travel before such a notion can be offered.

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<sup>6</sup> An anonymous referee contends that there could be ways in which the state of remembering might represent a past experience as its causal source which do not involve the rememberer knowing what the experience was like. While I agree that there are such states of remembering, I do not think that we would be inclined to classify them as episodic rememberings.

### 3. Mental time travel and re-presentation

One plausible claim about the nature of mental time travel in memory is that mentally travelling to the time at which one experienced a fact in the past is simply to re-experience the fact; to have the original experience of the fact all over again. The thought is the following. Suppose that, at some moment in the past, some fact was presented to one in virtue of having a certain experience. Then, in memory, one mentally travels back to that moment in the past in the sense that the fact is being re-presented to one in virtue of having the same experience for a second time. I will refer to the view that mental time travel, thus understood, is characteristic of the phenomenology of episodic memory as the 're-presentation' view of mental time travel in memory.<sup>7</sup> The re-presentation view of mental time travel in memory enjoys two main virtues, but it also faces two difficulties.

The first virtue of the re-presentation view is that it demystifies the whole idea of mental time travel. The idea of having, for a second time and in different circumstances, an experience that one had for the first time in the past is simple enough. If this is what mental time travel in memory comes down to, then the view that the phenomenology of episodic remembering is that of mentally traveling back to the time at which one experienced a fact in the past is no longer hard to understand. It is just the view that the phenomenology of remembering a fact episodically is that of re-experiencing the relevant fact. This is a simple view because the notion of mental time travel employed in its formulation is parsimonious; a feature that any alternative notion of mental time travel for memory should be aimed at preserving.

The second virtue of the re-presentation view of mental time travel in memory is that it explains why we think that, when one remembers a fact, one is aware of what it was like for one to experience that

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<sup>7</sup> This seems to be Tulving's conception of mental time travel in memory. The idea that a subject who remembers a fact episodically 'relives' the remembered fact can be found throughout his work. See, for example, (2005, 14), (2001, 21), (2002a, 6), (2002b, 313) and (1983, 1).

fact in the past. The explanation is that remembering the fact feels like mentally travelling back to the time at which one experienced the fact. This, the re-presentation advocate claims, amounts to re-experiencing the fact all over again. And if one re-experiences some fact, then one is aware of what it is like for one to have, right now, one's experience of the fact for a second time. But the phenomenology of having the experience for the second time, and the phenomenology of having the experience originally, should be identical. For we are talking about one and the same experience being repeated. Thus, it is no wonder that, by remembering the fact, one is aware of what it was like for one to experience that fact. All that is required for one to achieve such an awareness is one's awareness of what it is like for one to remember the fact at present.

The first difficulty for the re-presentation view is that it does not seem accurate to say that the phenomenology of having a memory of some fact is the same as the phenomenology that, in the past, one underwent when one had one's original experience of the fact. If I remember the house keys on the kitchen island, for example, my memory presents the keys to me as having been on the kitchen island in the past, whereas my past perceptual experience presented them to me as being there in the present. My memory has a certain feeling of pastness, but my past perceptual experience of the keys did not carry such a feeling.<sup>8</sup> For that reason, my memory of the keys does not feel like a re-run of my original perceptual experience. The upshot is that if mentally travelling back to the time at which we experienced a fact in the past consists in re-experiencing the fact, then the phenomenology of remembering episodically cannot be that of mental time travel after all.<sup>9</sup>

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<sup>8</sup> The feeling of pastness in memory is discussed, for example, in (Russell 1921, 161-162), (James 1890), and (Bergson 1911).

<sup>9</sup> For this objection, see (Matthen 2010, 8) and (Byrne 2010, 21).



In response to this difficulty, the advocate of the re-presentation view might reply that the feeling of pastness is not essential to episodic memory.<sup>10</sup> And I agree that the feeling of pastness is not an essential property of episodic memories. In fact, no phenomenal property of episodic memories is essential to them.<sup>11</sup> But it seems that the feeling of pastness must be a characteristic property of those episodic memories which entitle us to believe that the remembered facts took place in the past (that is, of most of our episodic memories). Why is that? The reason is that this entitlement is hard to explain otherwise. Consider, for example, your memory of the house keys on the kitchen island. Suppose, now, that the remembered house keys are not presented to you as being in the past. Why are you entitled to form, on the basis of your memory, the belief that the keys were on the kitchen island in the past, as opposed to right now or in the future? There must be something, in your memory, which entitles you to form such a belief. After all, if your belief about the keys having been there in the past were challenged, you would provide your memory as a reason for your belief. You would appeal to your memory of the keys in order to justify it. But if the phenomenology of your memory does not differ from the phenomenology of your past perceptual experience of the keys (as the advocate of the re-presentation view suggests), then it is difficult to see what feature of your memory could have guided you in forming the belief that the keys were on the kitchen island in the past. As far as I can see, the only plausible candidate for such a feature is a feeling of pastness in your memory.

The second difficulty for the re-presentation view concerns the motivation for the notion of mental time travel in memory. Recall that this motivation was epistemic. It was a way of capturing the idea that, in memory, we have access to what it was like for us to have some experiences in the past. Whatever mental time travel in memory ultimately amounts to, it seems to be a phenomenological aspect of memory which allows us to have access to our own past experiences. Now, there seem to be some cases

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<sup>10</sup> Some empirical reasons for thinking that the feeling of pastness is not essential to episodic memory can be found, for example, in (Michaelian 2016, 117). The feeling of pastness in memory is also downplayed in (Teroni 2015) and (Debus 2016).

<sup>11</sup> For reasons discussed in (Fernández 2018).

in which, when we utilise some of our other faculties, we seem to have an analogous type of access to some of our future experiences. If this is correct, the question arises whether our notion of mental time travel should be a broader notion than that which applies to the phenomenology of memory; broad enough for us to be able to describe the phenomenology of using those other faculties in the relevant cases. And one wonders, furthermore, whether the re-presentation notion of mental time travel can be broad enough for those purposes. Naturally, the reasonableness of placing this demand on any notion of mental time travel will depend on how strong the analogy between, on the one hand, the epistemic access to our own past experiences in memory and, on the other hand, the epistemic access to our own future experiences in those other faculties turns out to be. Let us consider, therefore, one of the cases which illustrates our access to our own future experiences.

Suppose that you are a painter. You want to paint a landscape; a landscape which looks exactly like the landscape you imagine seeing depicted in your canvas right now. You can imagine seeing the mountains and rivers in it, the clouds in the sky, and so on. You start the project of painting the landscape, but you realise that the landscape, as you are painting it, is not going to match the landscape that you imagine seeing depicted in your canvas. Thus, you make some adjustments. You use slightly different colours. You make the mountains taller, the rivers brighter, and so forth. You are using your imagined visual experience of a painted landscape as a guide for your activity. And the goal of your activity is to achieve a state wherein your perceptual experience, when you stand in front of your canvas, will resemble, as closely as possible, the experience that you imagine having when you imagine seeing your finished painting. In this situation, there is a perceptual experience that you intend to have, namely, the experience of the painted landscape that you will have when, upon finishing your painting, you look at your canvas. And this is a perceptual experience to which you have access, in much the same way as you would have access to it if you were remembering seeing the painting of the landscape in the past.

What is significant about this case is that you can represent a certain experience in your imagination, and then you can use it as a guide in your activity; an activity which is planned with the objective of achieving precisely that experience. That is, your intentions are aimed at having an experience that you

are currently imagining. This seems to be the key feature of the case. Accordingly, let us call cases of this kind, cases of 'intended experience'. Now, if there is a sense in which, in memory, we mentally travel back to the time at which we experienced a fact, then there seems to be a sense, too, in which, in cases of intended experience, we mentally travel forward to the time at which we will experience a fact. For, just like, by remembering a fact, we are aware of what it was like for us to experience the fact, it also seems true that, by intending to have an experience of a fact that we currently imagine having, we are aware of what it will be like for us to experience the fact. The analogy can be strengthened a little further indeed. We saw that, when one remembers the house keys on the kitchen island, for example, one's memory presents the keys to one as having been on the kitchen island in the past. One's memory enjoys a feeling of pastness. Notice, now, that a similar claim can be made about the phenomenology of intended experience. When one intends to paint a landscape which will look in a specific way, one's intention presents the landscape to one as looking in that particular way in the future. One's intention enjoys, we may say, a feeling of futureness.

Interestingly, the feeling of futureness does not seem to concern imagination as much as it concerns intentional action. To illustrate this point, compare two experiences of the same sound. One is the experience that I am having when, as a member of a theatre audience, I hear you performing a piano concerto and, as we approach the very end of the piece, I imagine hearing the final note. The other one is the experience that you have when, as the pianist, you intend to hear the final note, and you are about to press the piano key in precisely the right way for the instrument to produce that final note. I can imagine hearing the final note; an auditory experience that, knowing the concerto, I have good reason to believe is about to take place. But, when I imagine hearing the final note, the auditory experience that I imagine myself having is not presented to me as being in the future. By contrast, when you intend to play the final note, the auditory experience that you are trying to have is presented to you as being in the future.

To make this point more vivid, consider a scenario in which, as it turns out, you never play the final note. Let us imagine that, realising that there are hundreds of people looking at you intently, you have

a sudden episode of stage fright, which paralyses you at the very end of your performance. Now consider the auditory experience that, sitting in the audience, I imagine myself having when I imagine hearing the final note. If that experience was presented to me as being in the future, then, in such a scenario, we would need to conclude that my episode of imagination turned out to be inaccurate. And this seems counter-intuitive. It seems more natural to say that I imagined a possible future. The future in question never got actualised, but there does not seem to be anything inaccurate about the way in which I represented it.<sup>12</sup> By contrast, it does not seem counter-intuitive to say that, in this scenario, your intention to achieve an auditory experience of the final note was unfulfilled. What this asymmetry in our intuitions seems to suggest is that, just like the feeling of pastness in memory is the feeling that something did in fact happen (and not just the feeling that it could have possibly happened) in the past, the feeling of futureness is the feeling that something will in fact happen (and not just the feeling that it could possibly happen) in the future. This seems to be the reason why imagining the future is not enough for the feeling of futureness to arise.

What do cases of intended experience teach us then? They teach us that one is capable of accessing features of one's own future experiences just like, in cases of episodic remembering, one is capable of accessing features of one's own past experiences. And this epistemic access seems to come with an associated temporal phenomenology, just like it did in cases of episodic remembering. There seem to be some reasons, therefore, for preferring a notion of mental time travel which describes, not only the phenomenology of memory when one has epistemic access to one's own past experiences, but also the phenomenology of intentional action when one has epistemic access to one's own future experiences. Unfortunately, the re-presentation notion of mental time travel seems to be too restrictive for that

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<sup>12</sup> Naturally, if I expected to hear the final note, then one of my mental states has not been fulfilled, namely, my expectation. But my expectation is different from my imaginative episode of the relevant auditory experience. My expectation is identical with (or at least partly composed of) my belief that I was going to have the experience in question. And it is this belief, and not my imaginative episode, which has turned out to be false.

purpose: Suppose that memory feels like mentally travelling back to the time at which one experienced some fact in the past in the sense that, by remembering, one undergoes, all over again, the original experience of the fact. Then, there seems to be no sense in which the experience of mental time travel can be oriented towards the future. After all, there is no such thing as undergoing, all over again, an experience of some fact that one will have in the future for the first time.<sup>13</sup> If the re-presentation conception of mental time travel is right, therefore, the experience of mental time travel can only be oriented towards the past.

What we need, then, is a notion of mental time travel which satisfies the following constraints. Like the re-presentation notion of mental time travel, a satisfactory notion of mental time travel should be parsimonious enough to demystify the view that memory feels like mentally travelling back to the past. And, like the re-presentation notion of mental time travel, it should explain why we think that mental time travel in memory gives us access to what it was like for us to have experiences in the past. But, unlike the re-presentation notion of mental time travel, a satisfactory notion of mental time travel should be consistent with the fact that memories enjoy a feeling of pastness, and it should be broad enough to allow for the possibility of mental time travel to the future; an experience illustrated by cases of intended experience. My suggestion is that a certain approach to the content of memories can provide us with such an alternative notion of mental time travel.

#### **4. Self-reference in memory**

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<sup>13</sup> Strictly speaking, it is false that there is no such thing. But it seems that the only scenario in which such a thing could happen is a time travel scenario. Thus, in order to allow for the possibility of mental time travel to the future in cases of intended experience, the advocate of the re-presentation view needs to claim that all cases of intended experience are, in fact, instances of time travel. Admittedly, this claim is intelligible, but it is also highly implausible.

I propose to construe the experience of mental time travel as the experience of some of the things that we represent in our episodic memories. Our memories have content, and what it is for us to experience the feeling of mental time travel when we have memories is for us to experience some of the things which are part of their contents. The proposed conception of mental time travel is therefore grounded on a particular view about the content of episodic memories. Let us turn, then, to the view at issue.

Let us start with the idea that episodic memories have content. The minimal version of this idea is that episodic memories can be evaluated as accurate or inaccurate with respect to possible situations. Thus, it seems natural to think of the content of a memory as the set of possible situations with respect to which the memory is accurate.<sup>14</sup> Accordingly, I will represent the content of an episodic memory *E* as a set of possible worlds which meet a certain condition *C*, where *C* is such that, for any possible world *W*, *E* is correct with respect to *W* just in case *W* meets *C*. I will refer to such sets with expressions of the form ‘{*W*: *C* takes place in *W*}’. The view about the content of memories that I am putting forward is a view about what the relevant condition *C* is for each of our memories. The view is that, for each of our memories, the relevant condition *C* involves the causal history of the memory. In other words, our memories represent their own causal histories.<sup>15</sup>

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<sup>14</sup> There is a complication worth highlighting here. There are two senses in which an intentional state can be accurate, or true, 'with respect to' a possible situation. It can be true *in* that situation, or it can be true *of* that situation. Consider my belief, in the actual situation, that nobody believes anything. Consider, furthermore, a different possible situation in which nobody believes anything. My belief is true of that possible situation, but it is not true in that possible situation. Hereafter, when I talk about a memory being accurate, or true, with respect to a possible situation, I will mean that the memory is true of that possible situation. For more on this distinction, see (Adams 1981) and (Pollock 1985).

<sup>15</sup> Notice that, since I will be working with a notion of content according to which the contents of memories are identical with their accuracy conditions, the sense in which the causal histories of our memories are part of their contents is that their accuracy conditions involve those histories. There is a narrower conception of mnemonic content according to which the properties that are represented by our

This 'causally self-referential' approach to mnemonic content is not new. It comes in different versions depending on how the causal history of a memory is taken to be present in its content. One version of the approach is advocated, for example, by John Searle. Searle describes the content of an episodic memory of seeing a flower as follows:<sup>16</sup>

The memory of seeing the flower represents both the visual experience and the flower and is self-referential in the sense that, unless the memory was caused by the visual experience which in turn was caused by the presence of (and features of) the flower, I didn't really remember seeing the flower.

On this version of the causally self-referential approach, one's memory of a flower represents the fact that it has been caused by a certain perceptual experience, and the fact that the perceptual experience at issue has been caused by the presence of the flower in front of one. One difficulty with this version of the causally self-referential approach to mnemonic content is that, according to it, a memory is neutral

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memories must be properties which can be imagistically represented. Mohan Matthen, for example, makes this claim on the grounds that episodic memories are inherently imagistic in (Matthen 2010). This conception of mnemonic content is narrower than that which I will be working with because, as far as I can see, every property imagistically represented by an episodic memory will need to have been instantiated for the memory to qualify as being accurate. But the converse is not true: In order for the memory to be accurate, the remembered fact will need to have been experienced by the subject of the memory, for example. But the fact that it was them, and not someone else who experienced the remembered fact, is not something which is imagistically represented in the memory. The proposal that memories represent their own causal histories is made here assuming a notion of mnemonic content according to which the contents of memories are identical with their accuracy conditions. On the narrower, imagistic conception of content, the proposal would be false.

<sup>16</sup> In (1983, 85).

on whether the perceptual experience in which the memory originates was veridical or not, which seems counter-intuitive. Suppose that, normally, my visual experiences of green objects present them to me as being red objects, and vice versa. However, on this occasion, I look at the flower, which happens to be red and, as it turns out, the flower visually appears to me to be red. Later, I have a memory which causally originates in that visual experience. According to Searle's version of the causal self-referential approach, my memory represents itself as having been caused by the visual experience wherein the flower was presented to me as being red. And it also represents that visual experience as having been caused by the flower being red. All of this did happen. And yet, it intuitively seems that my memory of the red flower is false.

A different version of the causal self-reference approach is proposed by Jérôme Dokic. He describes, for example, the content of an episodic memory of seeing a book on a table as follows:<sup>17</sup>

I have a memory experience which carries the information that there was a book on the table, and this piece of information presents itself as being directly re-acquired from my past experience.

On this version of the causally self-referential approach, one's memory of a book represents the fact that one is having a memory which is informing one of both the fact that there was a book on the table, and the fact that the information at issue has been directly re-acquired from one's past experience. One difficulty with this version of the causally self-referential approach to mnemonic content is that, according to it, a memory is neutral on what it was like for one to have the perceptual experience in which the memory originates. This seems to conflict with one of the features of memory that we have discussed above: If a subject remembers a fact episodically, then this allows the subject to form an opinion about whether, and about how, the fact has been perceptually experienced by them. Suppose that I look at the book on the table and, later, I have a memory which causally originates in that visual

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<sup>17</sup> In (2001, 228).



experience. Intuitively enough, my memory allows me to form an opinion as to what it was like to visually experience the book on the table. I am able to answer questions on whether my visual experience was, for instance, a vivid experience or not. This should not be possible if Dokic's version of the causally self-referential approach to mnemonic content is correct. For if it is correct, then all my memory is informing me of is that the presence on the book on the table was experienced by me in the past. It is not informing me of what it was like for me to experience the book. And yet, it intuitively seems that, just in virtue of remembering, I know what it was like for me to experience the book in the past.

In light of these difficulties, I would like to propose a different version of the causally self-referential approach to mnemonic content. To illustrate the proposed view, consider the following example. Let  $W_0$  be a possible situation in which I am in front of a red apple, and my visual experience presents the apple to me as being red. Later, and as a result of having had that visual experience, I have a memory. This is a memory that I would express by claiming that I remember a red apple in front of me. Let  $P$  be my past visual experience in this situation, and let  $M$  be my current memory. The proposed view about the content of memories is that we should construe the content of  $M$  in  $W_0$  as the following set of possible worlds:

CSR:  $\{W: \text{In } W, M \text{ causally originates in my having perceived a red apple through } P\}$

I will refer to this version of the causal self-reference approach to mnemonic content as the 'reflexive' view.<sup>18</sup> What can be said in support of the view that memories are reflexive? Firstly, the view that CSR is the content of  $M$  squares with our intuitions about the veridicality of  $M$ . The view sits well, for

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<sup>18</sup> Notice that the reflexive view can be extended to memories that we report as being, not about facts, but about objects, properties or events. In those cases, the proposal is that a memory represents itself as causally originating in a veridical experience of some object, property or event. (See note 1.)

example, with the intuition that a situation in which I was not in front of a red apple in the past would not be accurately represented by my memory. Since it is part of the content of my memory that I have perceived a red apple in the past, my memory turns out to be false of such a situation. The view that CSR is the content of M also fits with the intuition that a situation in which there was a red apple in front of me, but I never experienced it perceptually, would not be accurately represented by my memory. Since it is part of the content of my memory that I had a perceptual experience of the red apple, my memory turns out to be false of such a situation as well. Finally, the view that CSR is the content of M accommodates the intuition that a situation in which there was a red apple in front of me, and I perceived it to be red, but I am not having M as a result of having had such a perception in the past, would not be accurately represented by my memory. Since it is part of the content of my memory that I am having M as a result of having had P, my memory turns out to be false of such a situation too.

Secondly, the view that memories are reflexive can account for the feeling of pastness in memory. It can account for this feeling as the experience of one of the things represented by our memories, namely, the causal connection between those memories and the facts that we remember in virtue of having them. In the case of M, for example, the idea is that, when I experience a feeling of pastness in virtue of having M, what I am experiencing is the fact that there is a causal connection between the presence of the red apple in front of me and M. To put it differently, what it is for me to experience the red apple as being in the past is for me to experience that the presence of the red apple in front of me is the cause of my having M.<sup>19</sup> According to this account of the feeling of pastness in memory, therefore, the feeling of

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<sup>19</sup> Denis Perrin argues against the idea that the feeling of pastness in episodic memory stems from a representation of the causal origin of the memory in (Perrin 2018, 45). According to Perrin, if pastness derives from the representation of causality in the memory, then the feeling of pastness would be concluded or derived from the representation of causality. And this, Perrin argues, conflicts with the fact that the feeling of pastness is an intrinsic part of the phenomenology of episodic memory. I agree with Perrin that a subject does not have the feeling that a fact they are remembering took place in the past because they are inferring this piece of information from the content of their memory. But this does

pastness is not the experience of the temporal location of a remembered fact, but the experience of the causal origin of the memory that we are having when we remember that fact.

Notice that this account of the feeling of pastness accommodates some of our intuitions regarding memory and, not mental time travel, but time travel simpliciter. Consider a possible situation  $W_1$  in which, after looking at the red apple and having P, I go into my time travel machine, set the dial to millions of years ago, I wait for a little while, and I get out of my machine. Imagine that, as I walk around trying to avoid dinosaurs, I get hungry and I have M. I remember the red apple that I saw before getting into my time travel machine and starting my journey. Suppose, now, that my memory M carries a feeling of pastness, that is, it presents the red apple to me as being in the past. If the feeling of pastness was the experience of the temporal location of the red apple, then we would be forced to conclude that, in this scenario, my memory is being misleading. (The red apple, after all, is not in the past, but in the future.) But this seems highly counter-intuitive. It does not seem right to say that my memory is misleading me. By contrast, if memories are reflexive, then we can preserve the intuition that, in this scenario, the feeling of pastness in my memory is not a misleading feature of it. For this feeling is the experience that my memory comes from perceiving a red apple. And this causal connection is preserved in a time travel scenario.

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not mean that the feeling does not arise from the representation of the causal history of their memory. What happens to the subject, when they have a feeling of pastness associated with their memory, is that they experience one of the things represented by their memory. We commonly have perceptual experiences with phenomenal properties when those experiences represent certain properties. By looking at a blue wall, for example, I may experience the fact that my perceptual state represents a certain reflectance property of the surface that I am looking at in a qualitatively distinctive way. The thought is that, analogously, by remembering the red apple, I am experiencing the fact that my memory represents its own causal history in a distinctive way which involves the phenomenal property of the feeling of pastness.

It seems, therefore, that the view that the content of memories involves themselves, and it involves their causal origin, can be motivated independently of the nature of mental time travel. It can be motivated by appealing to our intuitions regarding the veridicality of memories, and it can be motivated by appealing to the feeling of pastness in episodic memory.<sup>20</sup> Let us consider, now, whether the view that memories are reflexive can help us overcome the challenges of the re-presentation view of mental time travel in memory while, at the same time, preserving its virtues.

## **5. Mental time travel and representation**

The account of the experience of mental time travel in memory that I would like to offer is analogous to that of the feeling of pastness offered above. The feeling of pastness was construed as the experience of one of the things represented by our memories; the causal connection between some facts and those memories. Analogously, I propose that the feeling of mental time travel in memory should be construed as the experience of something else that our memories also represent, that is, our past experiences.

On the view that memories are reflexive, the possible situations which are part of the content of a memory are such that, in those situations, the subject perceived the remembered fact by having a specific perceptual experience. In the case of memory M above, for instance, the fact that I had the original perceptual experience P is common to all the possible situations which belong to the content of M. This means that what I represent, in virtue of having M, is not only the fact that there was a red apple in front of me, and I perceived it to be red. In addition, when I have M, I represent the fact that I

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<sup>20</sup> The view that memories are reflexive can be supported by epistemic considerations as well. The view seems to indicate that judgments based on episodic memories are not vulnerable to errors of misidentification, and that those judgments enjoy a sort of epistemic justification which is not reducible to the type of epistemic justification afforded by our other faculties. If these positions on the epistemology of memory can be independently motivated, then the two outcomes of the view that memories are reflexive constitute further reasons to endorse it. For details, see (Fernández 2019).

perceived the red apple by having a particular experience; an experience with specific phenomenal features. This aspect of the reflexive view suggests a conception of mental time travel in memory which is different from the re-presentation conception. It is a conception according to which, when we remember a fact, we do not have our original experience of that fact all over again. Instead, we represent that experience. We hold that experience and its properties in our mind. I will refer to the view that mental time travel, thus understood, is characteristic of the phenomenology of episodic memory as the 'representation' view of mental time travel in memory.

The representation view is a deflationary view about the nature of the experience of mental time travel in memory. After all, according to the view, there is an experience to which we refer when we speak of the experience of mental time travel in memory, but the experience at issue does not concern time at all. It is only the experience of our past experience. One might be worried, then, that the view does not capture the sense in which, in memory, we are mentally transported to the past. Consider, however, the intuition that, when we have a memory of some fact in the past, we are mentally transported to the time at which we experienced the fact in the past. This only seems to be the intuition that, when we remember the fact, the way in which we experienced that fact is present in our minds. And the representation view captures this intuition.<sup>21</sup> It seems, therefore, that the view that, by remembering a fact, we represent our past experience of the fact captures what is essential to the intuitive idea of mental time travel in memory.

As far as I can see, the representation view of mental time travel also preserves the two main virtues of the re-presentation view, and it avoids the two main difficulties for the re-presentation view. Let us

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<sup>21</sup> A similar idea can be found in (Soteriou 2018, 307-308). Soteriou seems to accept that the experience of mental time travel, when we have a memory, is due to the fact that the memory represents the past experience in which it originates. A difference with the account proposed here is that Soteriou does not try to account for the feeling of pastness in memory by appealing to the structure of mnemonic content.

tackle, first, the methodological issue of conceptual simplicity, and the issue of making room for the feeling of pastness.

According to the representation view, when we remember some fact, we mentally travel back to the time at which we experienced the fact in the sense that we represent our past experience of the fact. This seems to be a parsimonious enough notion of mental time travel. There are, of course, a number of ways of understanding the notion of representation, and a number of puzzles about representation in the philosophical psychology literature. But the notion of representation is not introduced ad hoc, for the only purpose of explaining mental time travel. The notion of representation has multiple uses within philosophical psychology.<sup>22</sup> For the purposes of our discussion, the relation of mental representation can be minimally understood as whatever relation allows a subject to think about, or linguistically refer to, a fact (or an event, or a property, or an object). The general idea is that of having an entity in mind. Beyond this general idea, however, I do not intend to commit myself to any details about the nature of the relation which underlies our ability to think about, and refer to, various types of entities.

Furthermore, the representation view of mental time travel is consistent with the fact that memories enjoy a feeling of pastness. After all, the view that memories are reflexive accounts for both the feeling of pastness and the experience of mental time travel in memory. And the view that memories are reflexive does not seem to be contradictory. Therefore, it seems that if we can explain the experience of mental time travel in memory through the representation view, then we can also make room for the idea that memories enjoy a feeling of pastness.

Let us consider, now, the question of whether the representation view of mental time travel explains why we think that mental time travel in memory gives us access to what it was like for us to have experiences in the past, and the question of whether the operative notion of mental time travel is broad

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<sup>22</sup> For a discussion of the nature of mental representation broadly, see (Stich 1994). For an overview of the issues on representation and cognition more specifically, see (Ryder 2009).

enough for us to conceive the possibility of mental time travel to the future. Let us take the two questions in that order.

An intuition that any account of the experience of mental time travel should account for is the intuition that, by remembering some facts in our past episodically, we are hanging on to the relevant parts of our lives. We have access to what it was like for us to experience those facts in the past. The representation view of mental time travel can account for this intuition. If the representation view is right, then, when we remember a fact episodically, we represent our past experience of the fact. It is no wonder, then, that we think that, when we remember a fact episodically, we are aware of what it was like for us to experience the fact in the past. After all, what it was like for us to experience the fact in the past is part of what our memory represents. Thus, the reason why we sense that, by remembering a fact episodically, we can ‘revisit’ that fact in our past is not that we are having our original experience of the fact all over again. The reason is that, in virtue of remembering fact episodically, we are having a higher-order experience; an experience which includes, as part of its content, our past perceptual experience of the fact.

A feature of any account of the experience of mental time travel which will count as a virtue of it is the capacity for accommodating the possibility of experiencing mental time travel to the future. For it seems that, at least in cases of intended experience, we are aware of what it will be like for us to have an experience in the future. In those cases, we seem to have a type of access to some of our future experiences which is analogous to the type of access that, in memory, we have to some of our past experiences. The representation view of mental time travel can make room for the possibility of experiencing mental time travel to the future as follows. Suppose that you are the painter who is trying to paint a landscape; a landscape which looks like the landscape you imagine seeing depicted in your canvas right now. There is a sense in which you can access the future when you allow your mental state to guide your activity. What is the relevant sense? The representation view of mental time travel in memory was motivated by the view that memories are reflexive. It seems natural to consider, then,

whether perhaps an analogous view about the intentionality of the mental states involved in cases of intended experience might provide us with an answer to this question.

A view about the intentionality of action which fits quite nicely with the view that memories are reflexive is that the causal self-referential account to mnemonic content applies to the content of intentions as well.<sup>23</sup> Just like memories represent themselves as having a cause, intentions represent themselves as having an effect. The thought is that, when I intend to have a certain perceptual experience of a landscape depicted on my canvas, for instance, the content of my intention is not only that I undergo the relevant perceptual experience, but that I undergo that experience as a result of my intention. (After all, my goal is not merely that the perceptual experience happens to me, but that I make it happen.) If this view is correct, then we can view the experience of mental time travel to the future as the experience of one of the things represented by my intention, namely, the perceptual experience of the landscape that I intend to have. We could call this, the 'representation view' of mental time travel in intentional action. Furthermore, we can view the feeling of futureness which is associated with my intention as the experience of another of the things represented by my intention, namely, the causal connection between my intention and the intended perceptual experience. It seems, therefore, that the representation view of mental time travel can account for the possibility of experiencing mental time travel to the future in analogous way to that in which it accounts for the possibility of experiencing mental time travel to the past.

## **6. Conclusion**

To recapitulate, we have seen that one plausible way of distinguishing episodic memory from semantic memory is by appealing to the phenomenology of memory. And, in particular, one way of drawing the distinction is by appealing to the experience of mental time travel which seems to characterise episodic

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<sup>23</sup> See (Searle 1983) for a defence of this idea.



memory. We have considered the received view of mental time travel in memory; the view according to which, in episodic memory, we mentally travel back to the time at which we experienced a fact in the sense that we re-experience the fact. This view gave us some insight into why, when we remember a fact episodically, we are aware of what it was like for us to experience it in the past. But it seems to conflict with the fact that memories enjoy a feeling of pastness. Also, the received view seems to make no room for the possibility of mental time travel to the future; a possibility that cases of intended experience illustrate. An alternative view about the experience of mental time travel in memory was offered for those reasons. According to it, in episodic memory, one mentally travels back to the time at which one experienced a fact in the sense that, by remembering the fact episodically, one represents one's past experience of the fact. We have seen that this view sheds some light on why, when we remember a fact episodically, we are aware of what it was like for us to experience it in the past. And we have seen that it is also consistent with both the feeling of pastness and the possibility of experiencing mental time travel to the future.

The proposed view about the experience of mental time travel in memory is grounded on a view about the intentionality of memories. This is the view that memories represent their own causal origin. We may conclude our discussion, then, by drawing a lesson which concerns the original issue of how to differentiate episodic memory from semantic memory. In retrospect, it is easy to appreciate that we have only been able to differentiate episodic memory from semantic memory on phenomenological grounds because a strong view about the content of episodic memories was assumed. Thus, one lesson that we could draw from this discussion is that the distinction between episodic memory and semantic memory can be formulated in phenomenological terms. (After all, the feeling of mental time travel is associated with remembering episodically but not semantically.) But the distinction between episodic memory and semantic memory can be formulated in intentional terms as well. For if the discussion above is on the right track, then episodic memories have reflexive contents, and there is no reason to suppose that the contents of semantic episodes of remembering are reflexive as well. Whether one prefers to draw the distinction between episodic memory and semantic memory on phenomenological

grounds, or one prefers to do it on intentional grounds, will probably depend on one's commitments elsewhere in the philosophy of memory.

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